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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* KLAUS HEILMANN, GERHARD BREITH,  
IGOR RAIKO, ROLAND SANDER, and STEFFEN FRITZSCHE

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Appeal 2008-0117  
Application 10/675,310  
Technology Center 1700

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Decided: March 12, 2008

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Before PETER F. KRATZ, CATHERINE Q. TIMM, and  
JEFFREY T. SMITH, *Administrative Patent Judges*.

KRATZ, *Administrative Patent Judge*.

DECISION ON APPEAL

1 This is a decision on an appeal from the Examiner's final rejection of claims 55-64, 67-78, 81-92, 94-105, 107-117, and 119-133, the only claims that remain pending in this application. We have jurisdiction pursuant to 35 U.S.C. § 6.

Appellants' claimed invention is directed to a filter, an end cap for a filter and a method of filtering a fluid. Additionally, the claimed invention related to a hemodialyzer. Claim 55 is illustrative and reproduced below:

55. An end cap for a filter device comprising:

a channel providing fluid communication from an exterior of the end cap to an interior chamber of the end cap, a portion of the channel adjacent to the interior chamber defining a fluid flow path in a first generally axial direction; and

at least one curved member wherein the at least one curved member and the end cap are a single structural component, the at least one curved member extending away from an upper interior surface of the end cap that is adjacent to the channel in a direction that is the same as the first generally axial direction and located within the interior chamber of the end cap defining, for a fluid exiting the channel and flowing into the interior chamber of the end cap, a fluid flow path in a second direction different from the first direction.

The Examiner relies on the following prior art references as evidence in rejecting the appealed claims:

Kanno	4,201,673	May 6, 1980
Hankammer	4,885,089	Dec. 5, 1989

Claims 127-133 stand rejected under the judicially created doctrine of obviousness-type double patenting over claims 1-15 of Heilmann (U.S. Patent No. 6,641,731). Claims 55-64, 67, 69, 70, 71, 76-78, 81, 83-92, 94, 95, 97-99, 101, 104, 105, 107, 108, 121, and 124 stand rejected under

35 U.S.C. § 102(b) as being anticipated by Hankammer. Claims 55-64, 67, 69-78, 81, 83-92, 94, 95, 97-105, 107, 108, 110-117, 119, and 121-126 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kanno in view of Hankammer. Claims 55-64, 67-78, 81-92, 94-105, 107-117, 119-127, and 131-133 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over German Patent No. 3435883 (Heilmann ‘883 or GP ‘883).<sup>1</sup>

We affirm all of the rejections maintained by the Examiner in the Answer except for the obviousness rejection over Kanno in view of Hankammer. Our reasoning follows.

#### Rejection under Obviousness-type Double Patenting

Appellants do not furnish any substantive arguments against the Examiner’s obviousness-type double patenting rejection of claims 127-133 over claims 1-15 of Heilmann in the Brief submitted. *See* the Examiner’s Answer (Ans. 3-4) and the Brief in its entirety. As such, we summarily affirm the Examiner’s rejection of claims 127-133 under the judicially created doctrine of obviousness-type double patenting over claims 1-15 of Heilmann (U.S. Patent No. 6,641,731. *See* 37 C.F.R. §§ 41.31(c) and 41.37(c)(vi) and (vii) (2006); M.P.E.P. § 1205.02 (8th ed., Rev. 3, Aug. 2005)).

#### § 102(b) Rejection

Appellants do not furnish separate substantive arguments for each of the commonly rejected claims 55-64, 67, 69, 70, 71, 76-78, 81, 83-92, 94,

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<sup>1</sup> Our references to Heilmann ‘883 in the Answer are to the English language translation of the cited German Patent No. 3435883, which translation is of record.

95, 97-99, 101, 104, 105, 107, 108, 121, and 124. Accordingly, we select claim 55 as the representative claim on which we shall decide this appeal as to the Examiner's anticipation rejection.

The factual determination of anticipation requires the disclosure in a single reference of every element of the claimed invention, either explicitly or inherently. *See In re Schreiber*, 128 F.3d 1473, 1477 (Fed. Cir. 1997).

The Examiner has determined that Hankammer discloses a filter cap including structure that corresponds to the representative claim 55 requirements for a filter end cap including structure that provides flow paths consonant with the claim 55 requirements therefore (Ans. 4, 10, and 11). In this regard, Hankammer discloses a cap for an end of a filter including a hollow cone (9) with a passageway or duct (11) extending to an opening exterior to the cap. The cap includes curved vanes (4) mounted beneath an umbrella-shaped bottom section (15) defining a cap interior area location (chamber) whereat the other end of the duct/channel (11) extends and provides a communicating opening thereto (Figs. 1-3).

Appellants contend that “the feature of a channel that provides fluid communication *from* an exterior of an end cap *to* an interior chamber of the end cap, *the channel defining a fluid flow path in a generally axial direction* is a patentable feature that is not disclosed ... by Hankammer” (Br. 6). This argument is not persuasive because the duct (11) of Hankammer provides a channel or passageway from one (outer) side of the cap to another (interior) side of the cap that is reasonably capable of functioning as an axial fluid flow path for conveying fluid from the cap outer side to the interior side chamber space thereof as found by the Examiner.

Appellants have not clearly identified and argued a claimed structural limitation as to the type of recited elements and/or arrangement of the recited structural elements that would patentably differentiate over the structure disclosed by Hankammer or otherwise fairly explained why the filter cap of Hankammer would not be capable of functioning as an axial fluid flow inlet.

Rather, Appellants present circular arguments in asserting that they have shown that Hankammer does not disclose a channel with the claimed functional requirement by repeatedly noting that Hankammer uses the disclosed passageway or channel (11) of the filter cap as a vent rather than as an axial fluid inlet.<sup>2</sup> In this regard, we emphasize that representative claim 55 is drawn to a filter cap, not a specifically arranged filter assembly including a specifically arranged cap connected thereto. Thus, it is our view that Appellants have not fairly established by way of persuasive argument or evidence how the cap channel of representative claim 55 serves to patentably define over the filter cap structure of Hankammer based on the arguments furnished in the Brief.<sup>3</sup>

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<sup>2</sup> Appellants surely recognize that structure that defines a channel opening could be used either as an inlet or outlet (Compare Specification 5, ll. 24-25). Also, *compare In re Schreiber*, 128 F.3d at 1477 (Fed. Cir. 1997) “It is well settled that the recitation of a new intended use for an old product does not make a claim to that old product patentable....” (internal citations omitted).

“A reference may be from an entirely different field of endeavor than that of the claimed invention or may be directed to an entirely different problem from the one addressed by the inventor, yet the reference will still anticipate if it explicitly or inherently discloses every limitation recited in the claims.” *Id.* at 1478.

<sup>3</sup> Arguments not made in the Brief are considered to be waived. *See*

Accordingly, we affirm the Examiner's anticipation rejection.

### § 103 Rejections

Under 35 U.S.C. § 103, the factual inquiry into obviousness requires a determination of: (1) the scope and content of the prior art; (2) the differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) any secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). “[A]nalysis [of whether the subject matter of a claim is obvious] need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR Int’l Co. Teleflex, Inc.*, 127 S. Ct. 1727, 1741 (2007). *See DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1361 (Fed. Cir. 2006) (“The motivation need not be found in the references sought to be combined, but may be found in any number of sources, including common knowledge, the prior art as a whole, or the nature of the problem itself.”). The analysis supporting obviousness, however, should be made explicit. *KSR*, 127 S. Ct. at 1741. The Examiner bears the initial burden, on review of prior art or on any other ground, of presenting a prima facie case of unpatentability. *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992).

### § 103 over Kanno in view of Hankammer

Concerning claims 55-64, 67, 69 to 78, 81, 83-92, 94, 95, 97-105, 107, 108, 110-117, 119, and 121-126 in this rejection, the Examiner relies

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37 C.F.R. § 41.37(c)(vii) (2006).

on Kanno for teaching a dialyzer and a method of using same wherein a plurality of hollow fibers are provided for filtering blood and which includes an inlet end cap (Ans. 6). The Examiner acknowledges that Kanno does not teach the use of curved members adjacent the end cap channel, as required by the rejected claims. *Id.* The Examiner turns to Hankammer for teaching an end cap for filter cartridges having curved members associated therewith. *Id.* The Examiner bases the asserted obviousness rejection on the position that:

It would be obvious to one of ordinary skill in the art at the time of invention to use the teaching of Hankammer in the teaching of Kanno for improved distribution of blood without channeling as taught by Hankammer (see column 2, lines 5-35). One would use the teaching of Hankammer in the teaching of Kanno because Kanno recognizes the need for proper distribution of blood without channeling and Hankammer teaches an improved structure for obtaining such distribution (Kanno column 3, line 45 – column 4, line 39).

*Id.*

Here, we agree with Appellants in that the Examiner's asserted obviousness rejection is not sustainable. This is because the Examiner's asserted rationale coupled with the applied reference teachings do not furnish a reasonable suggestion or a convincing line of reasoning that supports the proposed modification of Kanno based on the teachings of Hankammer for reasons stated in the Brief (*see* Br. 8-10) and as a reading of the applied references makes plain. Suffice it to say that Hankammer is concerned with high or fast liquid (water) flow through a filter cartridge and employs vanes in the shape of curved plates for giving water flowing in at the sides on the underside of a distributor cap a circumferential direction of flow so as to penetrate a sealing screen relatively uniformly and prevent or



diminish flow channeling in a water filter cartridge. Kanno, on the other hand, is directed to a dialyzer wherein a plurality of hollow fibers are arranged densely in a cylindrical housing. The device essentially functions as an artificial kidney when blood is introduced thereto. Kanno uses a blood inlet comprising a generally axially arranged upper pipe portion (23) and a cup portion (24). Kanno expresses a concern with the inlet pipe length and the volume of the cup portion relative to the volume of the pipe portion (col. 3, l. 54- col. 4, l. 39). Like Appellants, we find no reasonable basis for the Examiner's proposed modification of Kanno's blood inlet and/or distribution components based on the disparate teachings of Hankammer respecting the use of curved plates or vanes (4) for receiving water flowing in at the sides underneath a filter cartridge distributor cap.

Rejections based on § 103(a) must rest on a factual basis with these facts being interpreted without hindsight reconstruction of the invention from the prior art. *See In re Warner*, 379 F.2d 1011, 1017 (CCPA 1967), *cert. denied*, 389 U.S. 1057 (1968). In other words, the Examiner's basis for the rejection falls short of identifying a rationale that would have led an ordinarily skilled artisan to combine selected features from each reference in a way that would have resulted in a method or device corresponding to any of the rejected claims. *See KSR* 127 S. Ct. 1727 at 1741.

As such, we reverse the Examiner's obviousness rejection over Kanno in view of Hankammer.

§ 103 over Heilmann '883

Appellants argue the rejected claims as a group. Thus, we select claim 59 as the representative claim.

The Examiner has found that Heilmann ‘883 discloses a filter end cap including structure comprising curved members substantially corresponding to the structure recited in claim 59 with the possible exception of the claimed single structural component requirement for the cap and curved member(s) (Ans. 7-8). The Examiner maintains that, at best, the provision of one-piece construction of the end cap (24) and vanes or curved member(s) (50) of Heilmann ‘883 would have been a matter well within the skill of an ordinarily skilled artisan, and it would have been an obvious matter of choice for such an artisan to select one-piece construction rather than a multi-piece construction (Ans. 8). Alternatively, the Examiner asserts that Heilmann ‘883 provides for such one-piece construction of the end cap (24) and vanes/curved member(s) (50) in suggesting anticipation as another basis that supports the obviousness rejection (Ans. 19).<sup>4</sup>

Appellants, on the other hand, argue that Heilmann ‘883 does not expressly disclose at least one curved member that both extends away from an upper surface of the end cap in a generally axial direction with the end cap and at least one curved member being constructed as a single structural component. In this regard, Appellants maintain that the single structural unit requirement for the end cap and curved member(s), as claimed, eliminates an element corresponding to the flat disk (46) of Heilmann ‘883 while retaining the function thereof – “distributing a fluid” (Br. 12). Appellants cite *In re Edge*, 359 F.2d 896 and MPEP § 2144.04 in support of the proposition that the elimination of the flat disk element of Heilmann ‘883 (as allegedly called or in the rejected claims), while retaining the function thereof, is an indicia of the non-obviousness of the claimed invention.

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<sup>4</sup> It is well settled that anticipation is the epitome of obviousness.

We are not persuaded of reversible error in the Examiner's obviousness rejection by Appellants' argument. At the outset, we note that representative claim 59 employs open "comprising" language and does not preclude the presence of a flat disk as being part of the end cap structure as noted by the Examiner (Ans. 20). Significantly, we further note that the single structural component requirement of claim 1 does not require a one-piece construction of the end cap, including the curved member(s) thereof, much less preclude the presence of other elements, such as a flat disk element from being part of such a single structural component. In any event, we agree with the Examiner that Heilmann '883 does teach and/or suggest that the end cap (24), plate (flat disk) 46, and flow directing element(s) (curved member(s)) 50 can be constructed such that these components collectively represent a fixed or single structural component as one option (Ans. 19-23; Heilmann '083, pp. 9, 10, 13, and 14, and Figs. 1-3).

As for the argued claim requirement for the flow directing elements/curved members (50) extending away from an upper interior surface of the end cap in a generally axial direction, we note that Heilmann '883 teaches/suggests that the flow directing members (50) can extend in an axial direction away from an upper interior surface (54) as part of the end cap structure, when the flow directing members touch that surface, as maintained by the Examiner (Ans. 7 and 23, Heilmann '883, pp. 9, 10, 14). In this regard, we note that Heilmann '883 teaches that the flow directing members can furnish a tangential component to the fluid, which would have reasonably suggested to one of ordinary skill in the art that the flow directing members (50) should extend between a surface (54) of the end cap and the upper surface of the plate (46) so that their flow directing performance

would furnish this flow directional input to the fluid without being unnecessarily bypassed by fluid flowing above a top portion of the flow directing members (50) (Heilmann '883, p. 14, Figs. 1 and 2).

Appellants contend that the use of spacer members in Heilmann '883 for the plate (46) is merely to prevent a loosely fitting plate from blocking fluid flow and that such a disclosure is not a disclosure of members extending away from an upper extending surface of an end cap. The latter argument is not persuasive in that Heilmann '883 provides that flow directing members (50) can serve two functions; (1) directing flow and (2) functioning as a spacer (Heilmann '883, p. 10, ll. 4-12). Thus, in the embodiment of Heilmann '883 where the plate (46) is fixed, one of ordinary skill in the art would have reasonably recognized, as discussed above, that the members (50) can be located adjacent the end cap surface (54) so as to extend therefrom to the other axial end of the flow directing elements where they are attached to the plate (46) for their flow directing function. This is the case even if the spacer function of the members (50) of Heilmann '883 is not necessary due to the fixed located of plate (46) relative to the end cap (24) by other means in such a fixed plate embodiment of the structure of Heilmann '883.

On this record, it follows that we shall sustain the Examiner's rejection of representative claim 59 and all of the rejected claims, which stand or fall together therewith.

#### CONCLUSION

The decision of the Examiner to reject claims 127-133 under the judicially created doctrine of obviousness-type double patenting over claims 1-15 of Heilmann (U.S. Patent No. 6,641,731); to reject claims 55-64, 67,

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69, 70, 71, 76-78, 81, 83-92, 94, 95, 97-99, 101, 104, 105, 107, 108, 121, and 124 under 35 U.S.C. § 102(b) as being anticipated by Hankammer; and to reject claims 55-64, 67-78, 81-92, 94-105, 107-117, 119-127, and 131-133 under 35 U.S.C. § 103(a) as being unpatentable over German Patent No. 3435883 (Heilmann '883 or GP '883) is affirmed. The decision of the Examiner to reject claims 55-64, 67, 69-78, 81, 83-92, 94, 95, 97-105, 107, 108, 110-117, 119, and 121-126 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kanno in view of Hankammer as set forth in the Answer is reversed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv) (2006).

AFFIRMED

tf/clj

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